

In the Claims:

1. (Currently Amended) Method for increasing the density of a perovskite, which comprises the steps of:
  - (a) placing a perovskite feedstock in a high-pressure cell of a high pressure/high temperature (HP/HT) apparatus;
  - (b) subjecting said feedstock to pressures in excess of about 2 ~~kbar~~ Kbar and temperatures above about 800° C for time in excess of 3 minutes to produce a ~~an~~-cubic perovskite product having a density which is greater than said feedstock perform; and
  - (c) ~~(b)~~ recovering said perovskite product.
2. (Currently Amended)The method of claim 1, wherein said perovskite is ~~can be~~ represented by the structure,  $ABO_3$ , where:

A is one or more of  $Na^+$ ,  $K^+$ ,  $RB^+$ ,  $Ag^+$ ,  $CA^{+2}$ ,  $Sr^{+2}$ ,  $Ba^{+2}$ ,  $Pb^{+2}$ ,  $La^{+3}$ ,  $Pr^{+3}$ ,  $Nb^{+3}$ ,  $Bi^{+3}$ ,  $Y^{+3}$ ,  $Hf^{+4}$ , or  $Th^{+4}$ ; and

B is one or more of  $Li^+$ ,  $Cu^{+2}$ ,  $Mg^{+2}$ ,  $Ti^{+3}$ ,  $V^{+3}$ ,  $Cr^{+3}$ ,  $Mn^{+3}$ ,  $Fe^{+3}$ ,  $Co^{+3}$ ,  $Al^{+3}$ ,  $Ni^{+3}$ ,  $Rh^{+3}$ ,  $Hf^{+4}$ ,  $Ti^{+4}$ ,  $Zr^{+4}$ ,  $Mn^{+4}$ ,  $Ru^{+4}$ ,  $Pt^{+4}$ ,  $Nb^{+5}$ ,  $Ta^{+5}$ ,  $Mo^{+6}$  or  $W^{+6}$ .
3. (Currently Amended) The method of claim 2, wherein said feedstock perform is  $SrRuO_3$ .
4. (Original) The method of claim 1, wherein said perovskite feedstock is one or more of powder or a perform.
5. (Original) The method of claim 1, wherein said perovskite product has a density of greater than about 60% of its theoretical density.
6. (Original) The method of claim 5, wherein said perovskite product has a density of greater than about 60% of its theoretical density.

7. (Currently Amended) The method of claim 1, wherein step (b) is conducted for a time ranging from between about 3 minutes and 24 hours.
8. (Currently Amended) The method of claim 1, wherein said pressure ranges from about 2 to 75 kbar ~~Kbar~~ and said temperature ranges from about 800° to 1600° C.
9. (Currently Amended) The method of claim 7, wherein said pressure ranges from about 2 to 75 kbar ~~Kbar~~ and said temperature ranges from about 800° to 1600° C.
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Currently Amended) Method for increasing the density of a perovskite, which comprises the steps of:

- (a) placing a perovskite feedstock in a high-pressure cell of a high pressure/high temperature (HP/HT) apparatus;
  - (b) subjecting said feedstock to pressures in excess of about 2 ~~kbar~~ Kbar and temperatures above about 800 C for time adequate to increase the density of said feedstock ~~perform~~ to above about 60% of its theoretical density; and
  - (c) ~~(b)~~ recovering said perovskite product having a density above about 60% of its ~~it~~ theoretical density.
20. (Currently Amended) The method of claim 19, wherein said perovskite is ~~can be~~ represented by the structure,  $ABO_3$ , where:
- A is one or more of  $Na^+$ ,  $K^+$ ,  $RB^+$ ,  $Ag^+$ ,  $CA^{+2}$ ,  $Sr^{+2}$ ,  $Ba^{+2}$ ,  $Pb^{+2}$ ,  $La^{+3}$ ,  $Pr^{+3}$ ,  $Nb^{+3}$ ,  $Bi^{+3}$ ,  $Y^{+3}$ ,  $Hf^{+4}$ , or  $Th^{+4}$ ; and
- B is one or more of  $Li^+$ ,  $Cu^{+2}$ ,  $Mg^{+2}$ ,  $Ti^{+3}$ ,  $V^{+3}$ ,  $Cr^{+3}$ ,  $Mn^{+3}$ ,  $Fe^{+3}$ ,  $Co^{+3}$ ,  $Al^{+3}$ ,  $Ni^{+3}$ ,  $Rh^{+3}$ ,  $Hf^{+4}$ ,  $Ti^{+4}$ ,  $Zr^{+4}$ ,  $Mn^{+4}$ ,  $Ru^{+4}$ ,  $Pt^{+4}$ ,  $Nb^{+5}$ ,  $Ta^{+5}$ ,  $Mo^{+6}$  or  $W^{+6}$ .
21. (Currently Amended) The method of claim 19, wherein said feedstock ~~perform~~ is  $SrRuO_3$ .
22. (Original) The method of claim 19, wherein said perovskite feedstock is one or more of powder or a perform.
23. (Original) The method of claim 19, wherein said perovskite product has a density of greater than about 90% of its theoretical density.
24. (Original) The method of claim 19, wherein step (b) is conducted for a time ranging from between about 3 minutes and 24 hours.

25. (Currently Amended) The method of claim 19, wherein said pressure ranges from about 2 to 75 kbar ~~Kbar~~ and said temperature ranges from about 800° to 1600° C.
26. (Currently Amended) The method of claim 25, wherein said pressure ranges from about 2 to 75 kbar ~~Kbar~~ and said temperature ranges from about 800° to 1600° C.